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TITLE: TREATMENT OF NICKEL OXIDE
ORE
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INVENTOR-INFORMATION:

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ABSTRACT:

PURPOSE: To separate and recover the concd. mixture of Fe and Ni at a high recovery rate from an ore contg. oxides of Fe and Ni such as garnierite by mixing the ore powder with a reducing agent, lime, sodium borate, borax, etc.,

granulating the mixture, then heating and reducing the granulation product.

CONSTITUTION: The ore contg. NiO and FeO such as garnierite is pulverized, and 3 to 10% coke powder, etc., as the reducing agent, 1 to 10% lime, 1 to 3% of one kind among sodium borate, calcium borate, colemanite, etc., or 2 to 6% borax are mixed into the obtained powder. The mixture is granulated into pellets with water glass as a binder. The granulation product is dried, then charged to a rotary kiln, heated to 1250°C, for example, to reduce the NiO and FeO to the respective metals, crushed, and then magnetically separated by a magnetic separator to recover Ni and Fe. Consequently, the Ni and Fe in the ore are recovered at a low cost and in high yield.

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